

REMARKS

This responds to the Office Action dated September 13, 2006. Claims 1, 8, 15, and 19 are amended. No claims are canceled or added. As a result, claims 1-21 remain pending in this patent application.

§102 Rejection of the Claims

Claims 1-13 and 15-20 were rejected under 35 U.S.C. § 102(b) for anticipation by Gauglitz (U.S. Patent No. 5,231,990). Applicant respectfully traverses.

Concerning claims 1-13:

Applicant has amended claim 1 to overcome this rejection. Applicant cannot find in the cited portions of Gauglitz any disclosure of assigning a first location assignment to the first pace pulse and a second location assignment to the second pace pulse using at least in part the polarity information about the first and second pace pulses, the first and second location assignments represent the different locations of the heart at which the first and second pace pulses were respectively delivered, and wherein the first and second location assignments discriminate between atrial and ventricular locations using the polarity information about the first and second pace pulses, as presently similarly recited or incorporated in claims 1-13.

Although Gauglitz apparently can detect polarity of energy pulses delivered from a pacemaker (see Gauglitz at col. 15, lines 60-67), Applicant can find no objective evidence in Gauglitz of using such information to discriminate between electrostimulating pacing pulses being delivered at different locations of the heart. Instead, Gauglitz apparently merely uses a timer to determine the “type” of energy pulse emitted by the pacemaker (i.e., bioimpedance vs. cardiac electrostimulation). (See Gauglitz at col. 16, lines 1-14.) Applicant respectfully submits that one of ordinary skill in the art would not even regard a bioimpedance energy delivery pulse as constituting an “electrostimulating” pacing pulse, as currently recited in the amended claims. Instead, one of ordinary skill in the art would recognize that such bioimpedance pacing pulses are typically delivered sub-threshold to avoid inducing a responsive cardiac contraction. Applicant cannot find anything in Gauglitz that infers “location” of electrostimulating pacing pulses.

In response to Applicant's previous remarks, the Office Action explained its interpretation of "location assignment" as being a "memory location assignment." Accordingly, Applicant has amended the claims to clarify that the location assignment being performed assigns information about the different physical locations of the heart at which the first and second pace pulses are delivered, as inferred by the system using the electrostimulating pace pulse polarity information. Applicant respectfully submits that such amendments overcome the basis of rejection. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of these claims.

Concerning claims 15-21:

Insofar as these claims involve using pace pulse polarity information for determining locations of the heart at which electrostimulating pace pulses (as opposed to bioimpedance-sensing energy pulses) were delivered, Applicant respectfully submits that the amended claims overcome the rejection, for the reasons discussed above with respect to claims 1-13.

Insofar as these claims involve using pace pulse amplitude, pulsewidth, or timing between one of the pacing pulses and a corresponding evoked heart depolarization evoked by one of the pacing pulses for determining locations of the heart at which electrostimulating pace pulses (as opposed to bioimpedance-sensing energy pulses) were delivered, Applicant similarly submits that the portion of Gauglitz cited by the Office Action (i.e., Gauglitz at col. 15, line 23 through col. 16, line 42 (cited by the Office Action at 5)) fails to disclose using such information for determining the locations of the heart at which the electrostimulating pace pulses were delivered. In particular, Applicant respectfully submits that Gauglitz's distinguishing bioimpedance-sensing pulses from electrostimulating pacing pulses falls outside the scope of the amended claims, and that the Office Action's explained interpretation of its "location assignment" as being "a memory location assignment," no longer falls within the scope of the present claims. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of these claims.

§103 Rejection of the Claims

Claims 14 and 21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Gauglitz (U.S. Patent No. 5,231,990) in view of Johnson and Swartz (A Simplified Approach to Electrocardiography, 1986, Chapters 3 and 5).

Applicant respectfully submits that no *prima facie* case of obviousness exists because all elements incorporated in claims 14 and 21 are not disclosed, taught, or suggested in the cited portions of Gauglitz and/or Johnson and Swartz for the reasons discussed above with respect to the § 102 rejection of their base claims.

Although Johnson and Swartz apparently refer to determining the axis of an intrinsic ECG signal, like Gauglitz, Johnson and Swartz apparently fails to disclose determining or displaying locations of pace pulses. By contrast, the present patent application describes determining the location of pace pulses, such that the display strip can be conveniently annotated for a physician. This makes such diagnostic information easier to read, and less prone to error in interpretation. Because all elements incorporated in claims 14 and 21 are not disclosed, taught, or suggested in the cited portions of Gauglitz and/or Johnson and Swartz, Applicant respectfully submits that no *prima facie* case of obviousness exists with respect to claims 14 and 21.

The Office Action responded to Applicant's previous remarks by asserting (1) that Applicant's claims merely recognize "another advantage that would flow naturally from the suggestion of the prior art" and (2) that Applicant's arguments attack the Johnson and Schwartz reference individually, rather than its combination with Gauglitz. (See Office Action at 8-9.) However, the claims have been amended to clarify that the location assignments pertain to locations at the heart at which the pacing pulses were delivered, rather than the Office Action's interpretation as "memory location assignments," as explained by the Office Action at page 7. Accordingly, Applicant respectfully submits that there is presently no *prima facie* case of obviousness for the amended claims, because the combination of reference fails to disclose, teach, or suggest determining the locations at the heart at which the pacing pulses were delivered. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of these claims.

Request For Interview

Applicant is submitting this Response with a Request for Continued Examination to ensure that the present amendments are full considered and examined. Applicant believes that the present claim amendments distinguish the claims over the cited references. However, if the Examiner should disagree, such that these amendments do not result in allowance of all claims, then Applicant respectfully requests a telephonic interview with Applicant's counsel, Suneel Arora, at the telephone number below, to further discuss the present amendments with respect to the cited references.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 373-6951 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date December 8, 2006

By

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 8 day of December 2006.

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